Before The
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Humatics Corporation Request for Waiver of Section 15.519(a) of the Commission's Rules for an Ultra-Wideband System that Employs Fixed Infrastructure	)	ET Docket No. 19-242

COMMENTS OF THE GPS INNOVATION ALLIANCE

The GPS Innovation Alliance ("GPSIA"), pursuant to the Public Notice ("Notice") issued in the above-captioned proceeding, hereby submits these comments on the Humatics Corporation ("Humatics") Request for Waiver ("Request") filed with the Commission on July 16, 2019.[1] GPSIA urges the Commission to withhold action on the Request until Humatics completes the record in support of the Request by submitting certain technical and clarifying information.

Humatics requests a waiver of Section 15.519(a) of the Commission's Rules, which specifies technical requirements for handheld Ultra-Wideband ("UWB") systems and prohibits the use of fixed UWB infrastructure. Humatics seeks this waiver so that it may deploy its Spatial Intelligence Platform ("Platform"), which is intended to enable various industrial microlocation applications through operation on fixed infrastructure for ranging, positioning, and navigation functions.[2] The Request includes helpful data showing that Humatics operates with signals empirically tested to comply with all other applicable UWB rules, such as power levels (EIRP)

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[1] *Humatics Corporation Request for Waiver*, ET Docket No. 19-242 (filed July 16, 2019) ("Request"); *see* Public Notice, *Office of Engineering and Technology Seeks Comment on Humatics Corporation Request for Waiver of Section 15.519(a) of the Commission's Rules for an Ultra-Wideband System that Employs Fixed Infrastructure*, DA 19-836 (rel. Aug. 27, 2019).

[2] *See* Request at 2-3.

and out-of-band ("OOBE") limits.[3] GPSIA appreciates the potential value of the Humatics Platform and the importance of prompt Commission review and response to all such waiver requests. GPSIA is not opposing grant of the Request so long as Humatics completes the record in support of its request by (1) providing the product specification for its UWB module with its Request and (2) expressly confirming that the waiver is for specific industrial microlocation applications stated in the Request, *i.e.* Automatic Guided Vehicle Navigation, Crane Control, Forklift Tracking, and Worker Tracking, and that wide-scale urban deployment scenarios are outside of the scope of its Request. If other industrial microlocation applications are contemplated after Humatics receives a waiver based on the Request, Humatics should be required to seek a waiver to ensure those additional applications are sufficiently similar to those covered under the present Request.

I. HUMATICS SHOULD PROVIDE PRODUCT SPECIFICATIONS FOR ITS UWB MODULE

For the sake of completeness, GPSIA requests that the Commission withhold action on the Request until Humatics includes the product specification for its UWB module with its Request. While Humatics makes reference to the Time Domain P-440 UWB module in its Request,[4] the Request does not actually contain the associated product specification for the module. The product specification contains important technical information that is not disclosed in the Request, including:

- Summary and Theory of Operation
- Description of Block Diagram

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[3] Request at 16-20.

[4] Request at 17-20.

- Antenna Characteristics
- Transmission Specifics Relevant to FCC Certification, further including:
    - Modulations supported
    - Transmit Frequency Range
    - Maximum power rating
    - Any other relevant technical data

This information is important for the Commission to evaluate potential impact to other radio equipment operating in authorized bands that might be affected by the Time Domain P-440 UWB module. It also provides a basis for the Commission or interested parties to independently verify experimental results, if necessary. While some product specification information for the P-440[5] is publicly available, for purposes of confirmation and transparency, Humatics should provide a copy of the P-440 UWB module product specification with the Request.

II. HUMATICS SHOULD CLARIFY THAT ITS SYSTEM WILL NOT BE USED IN WIDE-SCALE URBAN DEPLOYMENT SCENARIOS

GPSIA similarly requests that the Commission withhold action on the Request until Humatics clarifies the limited deployment scope of its UWB module and explicitly states that its Platform will not be deployed for wide-scale urban deployment scenarios. In its Request, Humatics focuses on narrower, more discrete deployment scenarios such as automatic guided vehicle navigation, crane control, forklift tracking, and worker tracking that can reasonably be characterized as industrial microlocation applications.[6] Moreover, Humatics explicitly acknowledges that the underlying purpose of Section 15.519(a) was "to ensure that UWB

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5 *See* https://apps.fcc.gov/els/GetAtt.html?id=187726&x=.

6 Request at 2-3.

systems were essentially prohibited from creating networks, such as wide area networks, and to limit their deployment to peer-to-peer operations."[7] Humatics goes on to make the case that its equipment will be limited to peer-to-peer operations in discrete industrial settings.[8] However, on its website, Humatics has certain marketing materials that depict a much broader planned scope of deployment. Specifically, the Humatics website includes a video montage[9] for its Platform that suggests future usage scenarios with numerous signals being transmitted between clusters of tall buildings in cities. We have included a screenshot of the relevant sequence below as **Exhibit A**. GPSIA simply asks that the Commission require confirmation from Humatics that wide-scale urban deployment scenarios, such as the one depicted in its marketing materials, are *not* within the scope of the waiver request.

III. CONCLUSION

GPSIA appreciates and supports advances in microlocation technology and commends Humatics for its good faith efforts thus far to work towards a solution which protects incumbent operations. However, the record before the Commission lacks critical technical information and there is currently a discrepancy between the scope of deployment described in the Humatics Request versus in the Humatics marketing materials. Accordingly, GPSIA requests that the Commission withhold action on the Request until Humatics (1) provides a copy of the Time

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7 *Id.* at 12.

8 *Id.* at 12-13.

9 *See* https://www.humatics.com/?redirect=td&utm_source=unmannedsystemstechnology.com&utm_medium=referral.

Domain P-440 UWB module product specification with its Request and (2) expressly confirms that wide-scale urban deployment scenarios are outside of the scope of its Request.

Respectfully submitted,

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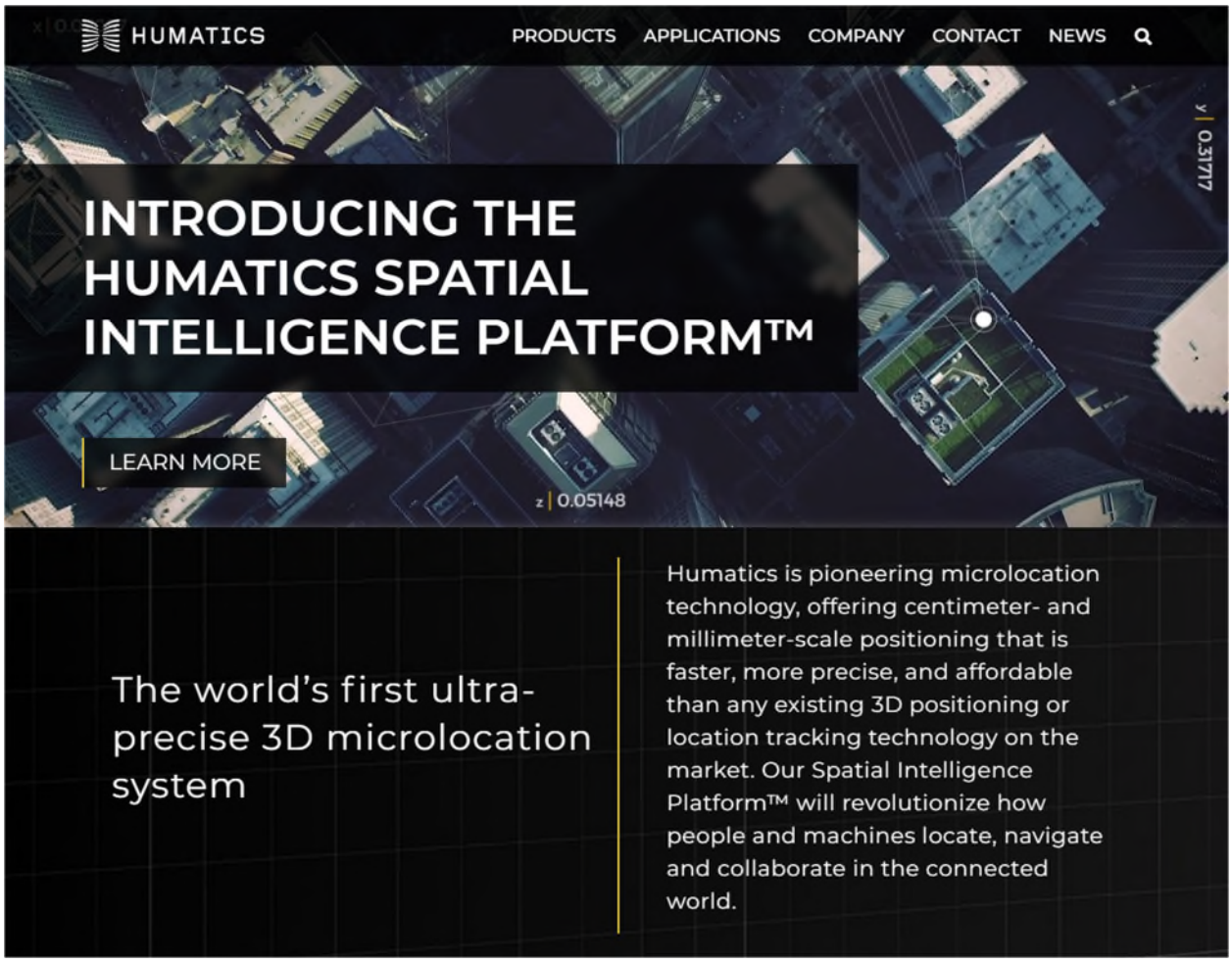
EXHIBIT A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Humatics is pioneering microlocation technology, offering centimeter- and millimeter-scale positioning that is faster, more precise, and affordable than any existing 3D positioning or location tracking technology on the market. Our Spatial Intelligence Platform™ will revolutionize how people and machines locate, navigate and collaborate in the connected world.